

LISA VIDERGAR LUCAS

U.S. Geological Survey
345 Middlefield Road, MS #496
Menlo Park, California 94025

Phone 650-329-4588
Fax 650-329-4327
llucas@usgs.gov

RESEARCH INTERESTS

Develop, adapt, and use numerical models of coupled hydrodynamics, biology, and water chemistry---in conjunction with field investigations---to understand the physical-biological-chemical relationships governing variability in water quality and habitat function in surface water systems such as estuaries, lakes, and rivers.

EDUCATION

Stanford University, Palo Alto, California
Ph.D. in Civil and Environmental Engineering, Environmental Fluid Mechanics Program (1997)

Stanford University, Palo Alto, California
M.S. in Civil Engineering, Environmental Fluid Mechanics Program (1992)

University of Notre Dame, South Bend, Indiana
B.S. in Civil Engineering (1989), Graduated with Honors

RESEARCH AND PROFESSIONAL EXPERIENCE

ECOHYDRODYNAMICIST/RESEARCH ENGINEER, U.S. Geological Survey, Menlo Park, CA (April 2000-Present)

CONSULTING ASSISTANT PROFESSOR, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (October 2002-Present)

NRC POSTDOCTORAL RESEARCH ASSOCIATE, U.S. Geological Survey, Menlo Park, CA (May 1998-April 2000)

VISITING SCIENTIST, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (September 1997-October 2002)

HYDROLOGIST, U.S. Geological Survey, Menlo Park, CA (July 1997-April 1998)

RESEARCH ASSISTANT, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (January 1992-June 1997)

TEACHING ASSISTANT, Stanford University, Dept. of Civil and Environmental Engineering, Stanford, CA (September 1992-June 1996)

STRUCTURAL ENGINEER, Badger Engineers, Inc., Cambridge, MA (August 1989-July 1991)

TECHNICAL PUBLICATIONS

Lucas, L.V., J.E. Cloern, J.K. Thompson, and N. E. Monsen. 2002. "Functional variability of habitats in the Sacramento-San Joaquin Delta: restoration implications." *Ecological Applications*, 12(5), 1528-1547.

Lucas, L.V., T. Schraga, C.B. Lopez, J.R. Burau, and A.D. Jassby. 2002. "Pulse, Patchy Water Quality in the Delta: Implications for Meaningful Monitoring." *Newsletter, Interagency Ecological Program for the Sacramento-San Joaquin Estuary*, 15(3), 21-27.

Lucas, L.V. and J.E. Cloern. 2002. "Effects of tidal shallowing and deepening on phytoplankton production dynamics: a modeling study." *Estuaries*, 25(4A), 497-507.

Monsen, N. E., J. E. Cloern, L. V. Lucas, and S. G. Monismith. 2002. "A comment on the use of flushing time, residence time and age as transport time scales." *Limnology and Oceanography*, 47(5), 1545-1553.

Lucas, L.V., J.R. Koseff, J.E. Cloern, S.G. Monismith, and J.K. Thompson. 1999. "Processes Governing Phytoplankton Blooms in Estuaries. I: The Local Production-Loss Balance." *Marine Ecology Progress Series*, 187, 1-15.

Lucas, L.V., J.R. Koseff, S.G. Monismith, J.E. Cloern, and J.K. Thompson. 1999. "Processes Governing Phytoplankton Blooms in Estuaries. II: The Role of Horizontal Transport." *Marine Ecology Progress Series*, 187, 17-30.

Lucas, L.V., J.E. Cloern, J.R. Koseff, S.G. Monismith, and J.K. Thompson. 1998. "Does the Sverdrup Critical Depth Model Explain Bloom Dynamics in Estuaries?" *Journal of Marine Research*, 56, 375-415.

Lucas, L.V. 1997. "A Numerical Investigation of Coupled Hydrodynamics and Phytoplankton Dynamics in Shallow Estuaries." Ph.D. Dissertation, Stanford University.

Cloern, J.E., C. Grenz, and L.V. Lucas. 1995. "An empirical model of the phytoplankton chlorophyll/carbon ratio -- the conversion factor between productivity and growth rate." *Limnology and Oceanography*. 40(7), 1313-1321.

Videngar, L.L., J.R. Koseff, and S.G. Monismith. 1993. "Numerical models of phytoplankton dynamics for shallow estuaries," in: *Hydraulic Engineering '93*, ed. H.W. Shen, S.T. Su, and F. Wen. ASCE, 1025-1030.

May, C., J. R. Koseff, L. V. Lucas, J. E. Cloern, and D. H. Schoellhamer. "Effects of spatial and temporal variability of turbidity on phytoplankton blooms." (In press, *Marine Ecology Progress Series*)

Lucas, L.V., J.R. Koseff, S.G. Monismith, and J.K. Thompson. "The Relative Importance of Lateral Transport, Benthic Grazing, Stratification, and Light Availability to Estuarine Phytoplankton Bloom Dynamics: A Modeling Study." (In prep.)

Thompson, J.K., J.R. Koseff, S.G. Monismith, and L. V. Lucas. "The Relative Importance of Lateral Transport, Benthic Grazing, Stratification, and Light Availability to Estuarine Phytoplankton Bloom Dynamics: A Field Study." (In prep.)